IT HAPPENED IN OREM

A Bicentennial History of Orem, Utah

by

Orem Bicentennial History Committee

Published by Orem City
Orem, Utah
1978

CHRONOLOGY OF PROVO BENCH AND OREM CITY

compiled by Dale Braithwaite

1848 First regular travel across Provo Bench.
1858 First water survey of Provo Bench
1858 Attempt to locate military post on Provo Bench.
1862 First irrigation canal started.
1863 First irrigation company formed.
1864 Provo Bench Canal first used for irrigation.
1865 Petition legislature for more water from Provo River.
1866 North Union Canal Company formed.
1867 George A. Smith given land to encourage devlopment.
1868 Proposed townsite on Provo Bench; did not develop.
1869 Federal land office opens in Salt Lake City.
1869 Unsuccessful attempt to dig first well.
1870 Dan Buchner dug first successful well.
1877 First family spent entire winter on Provo Bench.
1880 First school held in a home.
1881 Provo Bench separated from Provo City for tax purposes.
1883 First school building completed.
1883 First LDS Sunday School organized.
1885 Orem Eleventh (Timpanogos) Ward organized.
1885 First brick home built.
1885 First peach trees bear fruit.
1886 First LDS Relief Society organized.
1889 First LDS Primary organized.
1890 First business established.
1892 Twenty new homes built.
1892 First fruit shipping business started.
1894 Sharon School built.
1898 First post office established.
1898 Orem Eleventh (Timpanogos) Ward chapel completed.
1911 Orem Third (Sharon) Ward chapel completed.
1912 Lincoln High School District formed.
1912 Electricity came to Provo Bench.
1913 Orem inter-urban railroad built.
1914 First fruit shipped under Orem label.
1919 Petition presented for Orem to become a town.
1920 Culinary water system completed.
1921 Lincoln High School built.
1923 First town marshal appointed.
1929 First newspaper established.

1933 SCERA organized.
1938 James G. Stratton property purchased for town hall.
1938 Portion of Grandview annexed to Orem.
1938 Orem City Library established.
1939 Portion of Carterville annexed to Orem.
1941 SCERA auditorium (theater) completed.
1941 Orem became a Third Class city.
1942 Construction of Geneva Steel began.
1942 First police car purchased.
1943 Portions of Lakeview and Vineyard annexed.
1943 Six subdivisions approved.
1943 Orem City Cemetery opened.
1943 Attempt to change name of Orem to Geneva.
1945 City sewer system established.
1946 First deep well drilled for culinary purposes.
1947 First fire chief appointed.
1949 State Street resurfaced, became a "velvet strip."
1956 Orem High School completed.
1958 City government changed to city manager-council form.
1959 First shopping center built west of City Hall.
1959 $1,000,000 sewage treatment plant completed.
1970 New city hall dedicated.
1972 University Mall developed.
1975 Construction on Utah Technical College Orem campus begun.
1976 Orem High School A'Cappella Choir sang at the nation's bicentennial.
1976 Orem City Heritage Center dedicated.

STATISTICS OF OREM CITY
1976

10,296 acres
4700 feet above sea level
250 feet above valley floor
4000 acres in agriculture or 39%
21% vacant land
17% single families or 6866
2% multi-family dwellings—318 duplex, 25 triplex, 201 fourplex
5% public and quasi-public
3% commercial
1% industrial
40% developed
3.88 average people per dwelling unit
3.62 people per acre
11.5% of Orem is streets
13 mobile home parks
2 motels
876 fruit farms
603 vegetable farms
3 dairy farms
4 cattle farms
27 church buildings

OREM'S GROWTH

Census Year	Population
1890	435
1900	692
1910	1,064
1920	1,664
1930	1,915
1940	2,914
1950	8,338
1960	18,394
1970	25,760
1975	37,031 estimated by R. L. Polk and Co.
1980	44,000 original projection by Orem City
	56,471 revised projection by Orem City
1990	50,000 original projection by Orem City
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THE PROVO BENCH

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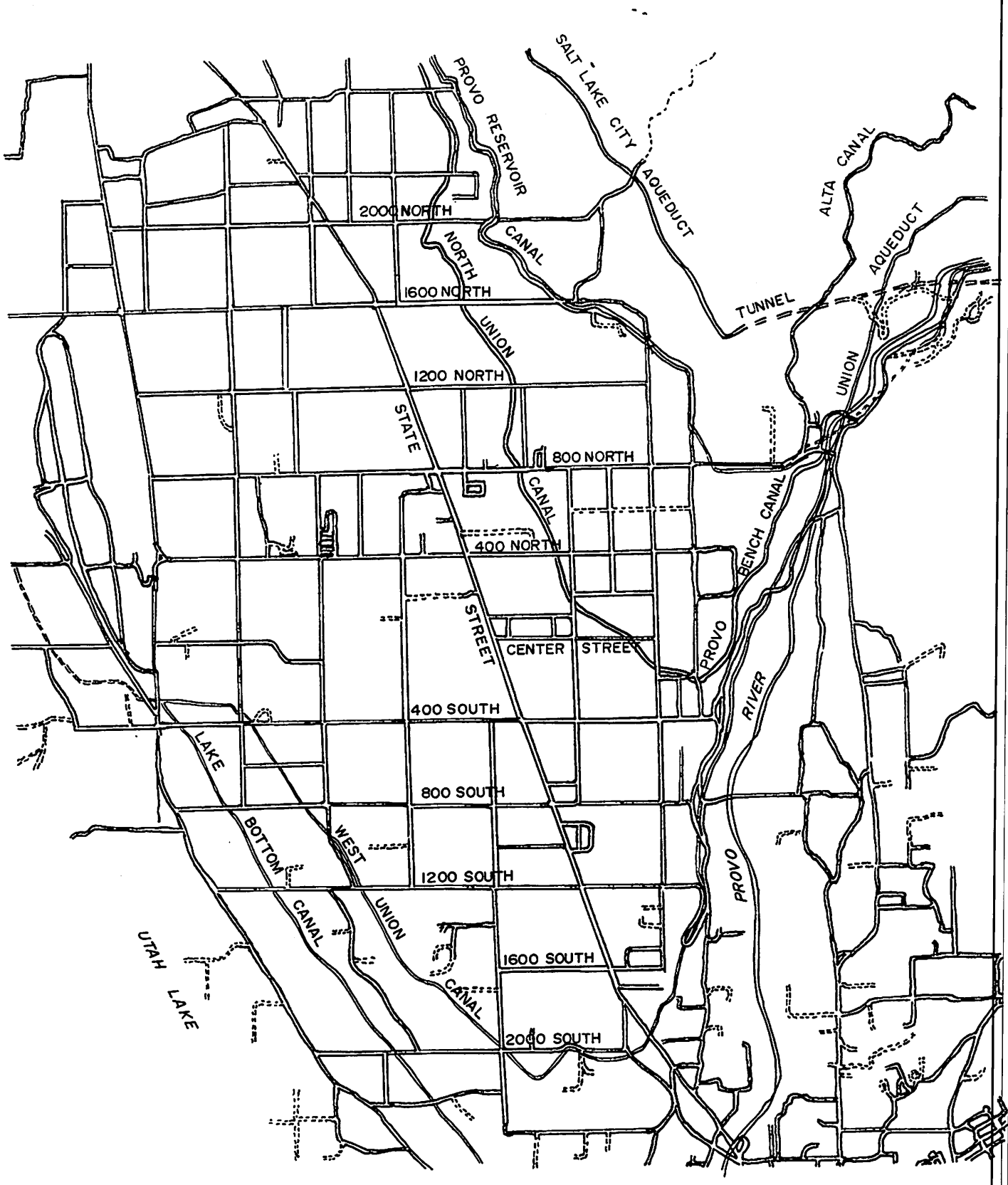
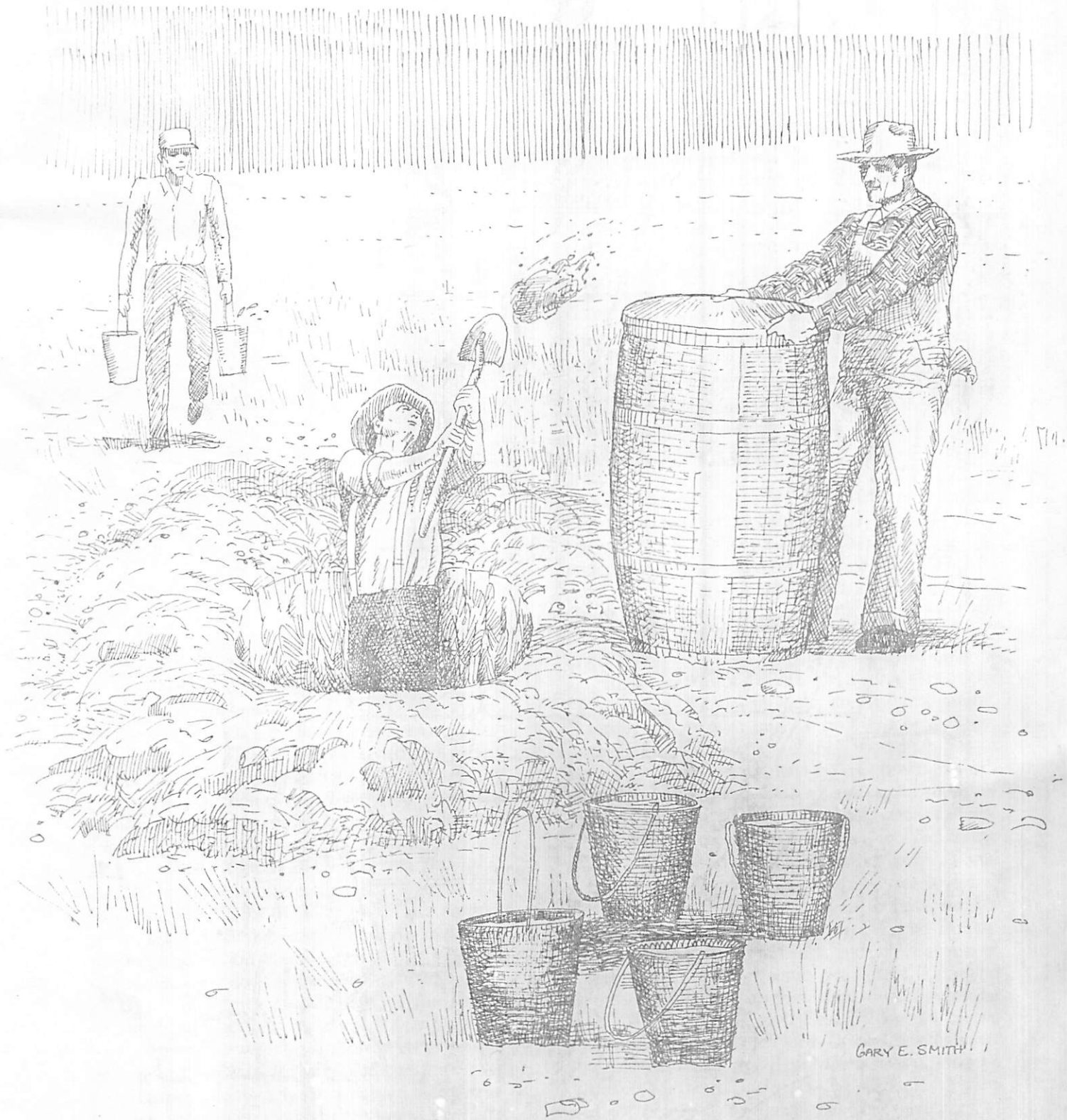


IRRIGATION CANALS, 1976



CHAPTER TWO

CHAPTER TWO
LAND AND WATER

by
Myrl Wentz

When the first Mormon settlers arrived in the Salt Lake Valley in 1847, the land was owned by Mexico. In 1848, the territory was transferred to United States ownership; but it was not until 1869 that a federal land office was opened in Salt Lake City to grant legal titles.

EARLY LAND TITLES

From 1847-1869, the leaders of The Church of Jesus Christ of Latter-day Saints (Mormons) parceled out the land in small lots or farms with the understanding that each individual was responsible for the land assigned to him.

When the federal land office opened in 1869, a method was devised to provide the Mormon settlers with legal land titles from the federal government. The process by which the federal land office granted titles to land previously cultivated and claimed by the Mormons is described in *Utah—A Centennial History:*

> Claims were entered in quarter sections as homesteads by "trustees." Those trustees in turn deeded the soil in small lots to the rightful claimants. The same procedure was applied to [LDS] Church holdings and to townsite lands. The mayors of the towns entered the townsite claims and later issued deeds to the actual residents.

Land that had not been previously claimed by the Mormon settlers was available for homesteading through application at the federal land office.

Settlers began claiming land on Provo Bench in 1861, and by 1869 when the land office opened, most of the land on Provo Bench was claimed and under cultivation. However, this land had not been parceled out under the direction of the LDS Church, but was obtained by filing homestead applications with the federal land office in Salt Lake City and either purchasing the land for $1.25 an acre or fulfilling the requirements of the homestead application to live on the land six months of the year and make certain improvements within five years. Those who selected the homestead option could purchase the land for $1.25 an acre after six months of homesteading.

These requirements were difficult for Provo Bench applicants because there was little protection from Indians and no water on the bench. Until the first canal was built, water had to be hauled from the Provo River in barrels. Many early farmers lived in Provo in the winter and moved to the bench in the summer. This arrangement required a lot of horse and buggy travel time.

THE PROVO BENCH CANAL

With good land and water all around it, one wonders why any colonizer would choose to live on the sagebrush-covered land on Provo Bench. Perhaps the bench seemed appealing because the colonizers had been told that rocky soil was the best for growing fruit trees. However, before the benchland could be farmed, water had to be made accessible.

At the request of Brigham Young, Jesse Fox, the Surveyor General, studied the Provo River to see if water could be diverted to the bench. He found that the river was full and that no claims had been made on it. The water was free for the taking upon the settlers' terms. Benchland owners settled terms in a group agreement, and the Provo Bench Canal was begun in 1862.

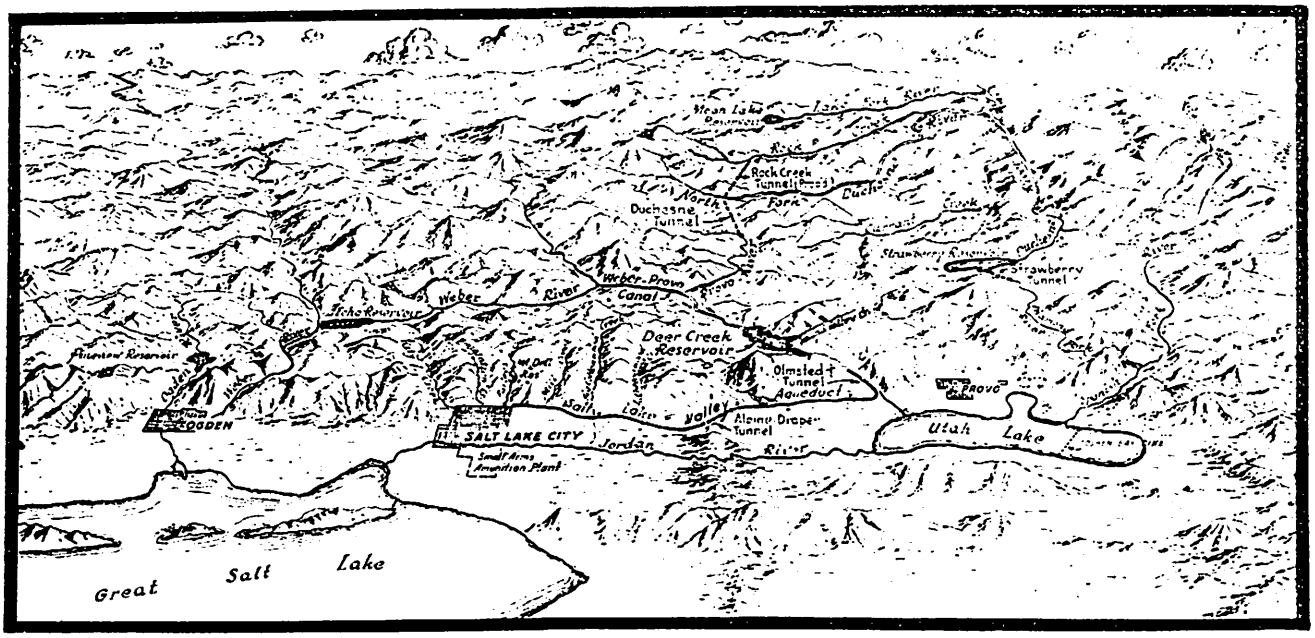
The canal started at the mouth of Provo Canyon in the area that is now part of the Olmstead Plant. It ran southwesterly along the edge of the bench. It ended not far from the eastern edge of the bench at the same place it ends now, just above 400 South in Orem. The first canal was only three or four feet across, not much wider than today's lateral irrigation ditches.

It was an arduous task to dig a canal on a rocky hillside without modern tools, and without capital. Every settler worked on it at one time or another. Some worked in payment of their road-ditch tax—a tax that required every male over eighteen to work one day, not more than two, on public roads or ditches. Because there were no job classifications, anyone able to use a pick and shovel worked on the canal. Because the project lacked professional guidance, the finished product had many weaknesses.

The Provo Bench Canal was to have been a cooperative effort of residents of Provo Bench, Pleasant Grove, American Fork, and Lehi. Because of disagreements among some promoters, Lehi and American Fork gave up their stock in the canal and sold their rights to Provo Bench. Pleasant Grove citizens constructed the North Union Canal to water their farms so the Provo Bench Canal was no longer a necessity for them. The North Union Canal Company agreed, however, to share the work and cost of

building the Provo Bench Canal, but only after a lot of persuasion. A letter from the frustrated trustees of the Provo Bench Company to the trustees of the North Union Company informed them that if work was not completed before the 15th of September next [1863], action would be commenced before the high council of the stake against said Company. The North Union Company cooperated and the Provo Bench Canal was finally completed in 1864.

Company was legally organized, all the unclaimed land on the bench was made the property of the company. Brigham Young appointed George A. Smith to be the adviser to the Provo area and President of the Provo Bench Canal District. Through him, affairs of the bench were referred to Brigham Young. In regards to the company-owned land, President Young advised the company to sell it as soon as possible to Mormon settlers to prevent non-



THE PROVO RIVER PROJECT

ORGANIZATION OF PROVO BENCH CANAL AND IRRIGATION COMPANY

A legislative act of 20 January 1865 allowed irrigated lands in Utah to be divided into irrigation districts to make financially possible the construction of big canals. As a result, fifty-two benchland owners petitioned the court before Judge Z. Snow to organize an irrigation district on the Provo Bench

> We the undersigned, constituting the majority of land owners of that part of the County of Utah known as Provo Bench: petition your Honorable Body that more water is necessary and that Provo River is unclaimed which if brought out of its natural channel and thrown upon that tract of land above mentioned under cultivation, or to be put under cultivation, can be of value to the interests of agriculture. Therefore, we, the undersigned, pray your Honorable Body to organize that part of Utah County known as Provo Bench or part thereof of said bench south of the line of the mouth of Provo Canyon, into an irrigation district subject to an act entitled *An Act to Incorporate Irrigation Companies.*

An election was set and held in the city of Provo; the petition was granted 18 December, 1865.

When the Provo Bench Canal and Irrigation

Mormons from settling there. However, there were no buyers at the time, even though the cost of land was only three to five dollars an acre. The main reason was the high cost to irrigate the land. Only corporations could afford the land, and they didn't want it.

The Provo citizens gave President George A. Smith a home in Provo in appreciation for his services as adviser to the Provo area. The benchland owners felt that the Provo Bench Canal and Irrigation Company should also show their appreciation to him. They gave him his choice of forty acres of land on the bench. His reply to their offer was as follows:

> Great Salt Lake City
> Oct. 25, 1867
>
> L. J. Nutal, Esq.
>
> Your note of October 7th. informing me that the action of the Meeting of the Trustees of the Provo Bench Canal and Irrigation District, held August 21, 1867, authorized me to select one lot (40 acres) in the said District for my use and benefit with compliments of said Trustees, has been duly received. I am truly grateful to my brethren and friends for the kindness manifested in conferring so valuable a boon.
>
> With respect, I remain your brotherly
>
> George A. Smith (sgd.)

PLANS FOR A CITY ON THE PROVO BENCH

In 1868, four years after the completion of the Provo Bench Canal, the bench had no permanent year-round residents. The trustees of the company became concerned, so they wrote to President Smith and asked for approval to establish a town on the bench. The following reply was received:

November 13, 1868

Messrs. A. F. MacDonald, Peter Stubbs, David A. Kinsey, L. John Nuttal, David John and Abraham O. Smoot:

Brethren:

Your favor of November 6 is received. I have considered the establishment of a town site and the erection of a beautiful city on Provo Bench as a question of time. Your letter induces me to believe the time is near at hand. I presented the subject to President Brigham Young and read him your letter. He recommended that measures be taken to ascertain whether well water can be obtained within a reasonable distance of the surface as accidents might occur from frost or floods that would perhaps for weeks deprive the contemplated city of water unless it could be obtained from wells. It is, therefore, necessary to obtain the services of a skillful water witch to trace veins and tap some of them by digging wells so as to ascertain the quality of the water before any city lines are run.I would recommend the district go to this expense as it is most important that a site should be selected before the land passes into the hands of individuals as the company could dispose of city lots to much better advantage than individuals would be likely to do.

Very respectfully,
George A. Smith. (sgd.)

At a meeting of the Board of Trustees of the Provo Bench Canal and Irrigation Company on 1 December 1868 President Smith made some suggestions for the new city. He suggested that the city be laid out one mile square, with five public squares, one in the center of the city and one in the center of each ward. The streets around the center square would be eight rods wide and all other streets would be six rods wide. Each block was to be about 28 rods square. Each block was to be divided into four lots. In each ward, one lot was to be reserved for a school lot, one was to be reserved for the Female Relief Society to raise silk, and one was to be reserved for a tithing office and yards. The site for the city was the south end of the bench which overlookd the Provo River and the east mountains.

This town site was never established because sufficient water was not available at the south end of the bench until years later.

APPORTIONING WATER

Directing the water from the Provo River into the various canals was the biggest problem faced by everyone involved. The original plan was for a committee composed of representatives of the canals and their water masters to place logs, stones, and brush in the bed of a stream to divert the right proportion of water into the canals. This was satisfactory only as long as each settler received all the water he wanted. If more land was cultivated than in a previous year, or if the river got smaller as the season advanced, agreements were forgotten and dams were secretly rearranged. Some settlers actually went without enough water at times. This usually happened at a critical time. In an effort to aleviate the problem, wooden weirs were installed to measure the flow of the water, but since no account was made of the force behind them, they were inaccurate.

A temporary complication arose when people above and below the bench increased their demands on the Provo River. When diversions were made in Heber Valley, the people in the Provo Valley complained loudly. If was discovered, however, that water distributed in the upper valley later reappeared in the lower valley streams because most farmers watered the rocky soil too much. Thus a late season benefit came when it was needed most. The Lakeview Canal, which took water from the Provo River below the bench, likewise benefited from return flow from the land above it.

As far as the individual farmer was concerned, his rights needed to be defined and recorded by law, not agreement. A means to get accurate measurements of the water flow was also needed. In 1900, the Provo Bench Canal and Irrigation Company decided to allocate water from the main Provo Bench Canal into the individual ditches or laterals by opening the irrigation gates a certain number of inches according to the number of shares allowed.

Just as differences of opinion between water companies caused court fights, so differences between farmers often ended in personal battles, some even fatal. The bane of some farmers was the night water turn. A neighbor who came too soon to take his turn sometimes caused the 2:00 a.m. quiet to be shattered by the clang of shovels.

Today, water is not measured by the number of inches the irrigation gate is open, but is distributed to irrigators on a time basis proportionate to their shares in the canal. At the beginning of the irrigation season, the water master prepares a schedule for each lateral, giving the exact times at which each shareholder is to begin and end irrigating.

COSTS INCURRED BY THE CANAL

After the first few years, maintenance work on the Provo Bench Canal was not done by the farmers any more. The company hired workers through bids to enlarge the canal and fix breaks. This service was

paid for by assessments made to the shareholders, or by profits from selling the company's land on the bench. One bid that was accepted agreed to repair part of the canal by filling small breaks with soil and rock for thirty-five cents per yard. If brush was included, forty cents per yard was charged.

In January of 1881, the treasurer's claim for two and one-half years of work was $5.00. The best canal workers earned $1.25 in an eight-hour day. In 1882, it cost $44.50 to keep water in the canal. The company secretary earned $25.00 a year, and the treasurer earned $10.00.

LINING THE PROVO BENCH CANAL AND LATERAL DITCHES

The original Provo Bench Canal was six feet wide and lined with brush, rocks, and soil. In 1880, the canal was enlarged to twelve feet wide and instead of the stockholders providing the labor, bids were let. The directors established the specifications as follows:

> Canal to be twelve feet wide and three feet deep on bottom with one-third slope on each bank. It is understood that where breaks come in above distances, brush will be laid in layers between every foot of soil or gravel commencing at the bottom of the present breaks with the first layer laid to the proper pitch into the bank.

This was the condition of the canal and lateral ditches for the next fifty years. Provo Bench farmers had noticed water losses in their laterals, but lining with cement was too costly for them and for the irrigation company.

In the depression of the 1930s, the government paid up to sixty per cent of the cost of road and sidewalk improvement, sewer and water system installaton, and weed eradication under the Work Projects Administration. The Provo Bench Canal directors and Orem City Officials under the direction of Mayor B. M. Jolley persuaded the W.P.A. to include cement lining of irrigation ditches as an acceptable federal work project.

Provo Bench farmers agreed to contribute $148.000 as their portion of the cost with the federal government supplying additional funds. Attorney A. H. Christensen insisted that quitclaim deeds to the laterals be given to the Provo Bench Canal and Irrigation Company for use as bank security. Almost all of the farmers signed, and the work began. This lining project was carried out with the aid of surveyors, government inspectors, advisers, and all the necessary materials, equipment, and man power.

The lateral ditches lined as part of Mayor B. M. Jolley's beautification project not only saved water, but also water travel time. The farmers' expenses to line their laterals were returned the first season just from the water they saved. Mr. Clarence Ashton, County Agricultural Agent, figured that lining the nineteen miles of the canal system saved $229,425. Since then, lining has been done by individual farmers.

WELLS ON THE BENCH

At first the Provo Bench colonizers felt assured that the Provo River would supply them with all the water they would need for many years to come. They soon learned that its supply was neither certain, uniform, nor enough. Spring floods were sometimes followed by droughts, and there was almost always a short supply of water by the end of summer. To conserve the supply they had, they built cisterns to hold drinking, cooking, and washing water between irrigation turns. They used barrels to collect rain water, and in the winter they melted the snow. Despite their efforts, they had to get more water from distant streams and wells.

The first wells that reached water on the bench were dug by Ben Buckner in 1870. One was located at 353 South State Street, and another was located at 1300 South State Street. They were 110 feet deep and were not lined. These wells proved unsuccessful because they caved in.

In 1897 Alfred Skinner, the sixteen-year-old son of pioneer Samuel N. Skinner, began digging wells in the bench area. He was a broad-shouldered, black-haired youngster who had plenty of energy to dig with a pick and shovel.

Alf dug his first well for his father at 1150 South Main. He struck water at seventy feet and lined the well with concrete pipe purchased in Provo. Soon after, Charles Poulson set up a concrete business in his own home at 845 South State Street, so Alf got his pipe from him instead of going to Provo for it. Alf dug down into the ground within a four-foot frame as he was lowered by a pulley. When he reached water, he fitted the hole with concrete pipe. At ground level, he set up a Sears and Roebuck hand pump on a wooden cover. He dug a total of 111 wells that produced cold, pure, and hard water.

Some farmers living in the canyon wind-belt used windmills to pump water into house tanks from which indoor plumbing systems operated. Almost every home had a well. The cool, dark upper section of the well served as a refrigerator simply by hanging from the sides cages filled with butter, cream, milk, and other perishables.

As indoor plumbing was adopted by citizens, wells and irrigation ditches became contaminated. This serious problem led to the eventual incorporation of the Town of Orem which could bond itself and thus devised a culinary water system. In 1919, Orem was officially incorporated and issued $100,000 worth of bonds to construct a municipal water system.

ALTA DITCH AND CANAL COMPANY

In the early months of 1875, springs were discovered at Guard Quarters, about three miles above the mouth of Provo Canyon. (Guard Quarters was the remains of a stone house built by Mormon militia where they watched for the possible entry of Johnston's Army into the valley.) A group of men were looking for water in the area when they heard the sounds of an underground stream beneath their feet. They dug a tunnel into a ledge and discovered the stream source which was between two and three hundred feet above the bottom of the canyon. They named the new water supply Alta Springs.

The same year workers began digging a ditch to channel the water to farm land. It took ten years to complete the project. It skirted the side of the canyon and entered the valley about a quarter of a mile northwest of the mouth of the canyon. At this point the water went down a rocky ravine to the land on the bench. It then followed a northwest course for two miles and watered three hundred acres of land above the Provo Bench Canal. This land was planted mostly in orchards.

The Alta Ditch and Canal Company was incorporated in 1893. In 1957, Orem City secured an agreement with the Alta Ditch and Canal Company through which Orem traded irrigation water owned by the city to the Alta Ditch and Canal Company; in exchange, Orem City received water from the Alta Springs for its culinary system

BLUE CLIFF CANAL

In 1885 a group of farmers living between the mouth of Provo Canyon and Pleasant Grove formed the Blue Cliff Canal Company for the purpose of constructing and controlling a canal to distribute water from the Provo River. The canal emerged onto the bench a short distance below the Alta Ditch Canal. Because of construction difficulties, no water was run into the canal until 1901. The company had a secondary river right, which meant that when the Provo River was running full, the high water could be run into the Blue Cliff Canal. It also had an interest in some springs originating in the area above the Murdock Diversion Dam, one and one-half miles up Provo Canyon. Half the water of the Blue Cliff Canal was later obtained by the Provo Reservoir Company.

THE PROVO RESERVOIR COMPANY

On 20 May 1909, the Board of Trustees of the Provo Bench Canal and Irrigation Company met in the Timpanogos meetinghouse with Joseph R. Murdock and Joseph B. Keeler concerning the Provo Reservoir Company which the latter two were organizing. The new company had secured rights to some springs and had purchased half the water of the Blue Cliff Canal Company.

The Provo Reservoir Company maintained that a lot of water flowing from canals and ditches into Utah Lake was being wasted and therefore, subject to appropriation. The Provo Bench Canal and Irrigation Company and Provo City opposed this view, so the matter went to court in 1916. The Provo Reservoir Company won the case and received the rights to use water from the Provo River in their new canal.

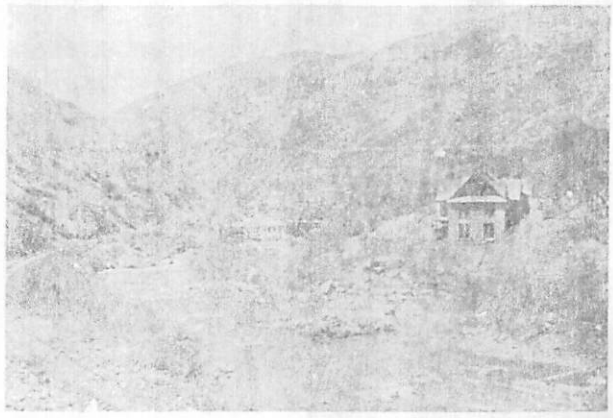
The canal built by the Provo Reservoir Company became known as the Murdock Canal, named after Joseph R. Murdock, the founder of the company. Water was first turned through this canal in 1910.

The company constructed reservoirs at the head of the Provo River for water originating there and thus secured four thousand two hundred acre feet of water. It secured water from the Weber River and built a diversion canal to transport it. It built a canal from about a mile above the mouth of Provo Canyon northward through Utah Valley, skirting the foothills to the Jordan Narrows near Point of the Mountain. There it constructed a pumping plant and put two pumps into operation to carry the water in a concrete and steel pipe west across the Jordan Narrows where it was released from the pipe into two canals leading to farming districts, one branch running south into Utah County, a distance of about eight miles, and the other running north into Salt Lake County to a point west of Murray. Some 2,660 shares of Provo Reservoir Company water are now used on Provo Bench.

The Murdock Canal was later purchased by the Bureau of Reclamation as part of the Deer Creek Project. It now carries water from Deer Creek Reservoir as well as water from the Provo Reservoir Water Users Company, the successor to the Provo Reservoir Company. Because of several exchanges and agreements, the canal now carries water for several other companies also.

HEISELT SPRINGS

Heiselt Springs were purchased by Orem City from Hyrum Heiselt in 1927 for $10,000. The springs



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originated in the area adjacent to the Murdock Diversion Dam. Other springs in that same area now furnish Orem with water. The pipes follow the old railroad tracks for a distance, go up and over the west hill, and drop the water into the city's storage tank.

DEER CREEK RESERVOIR

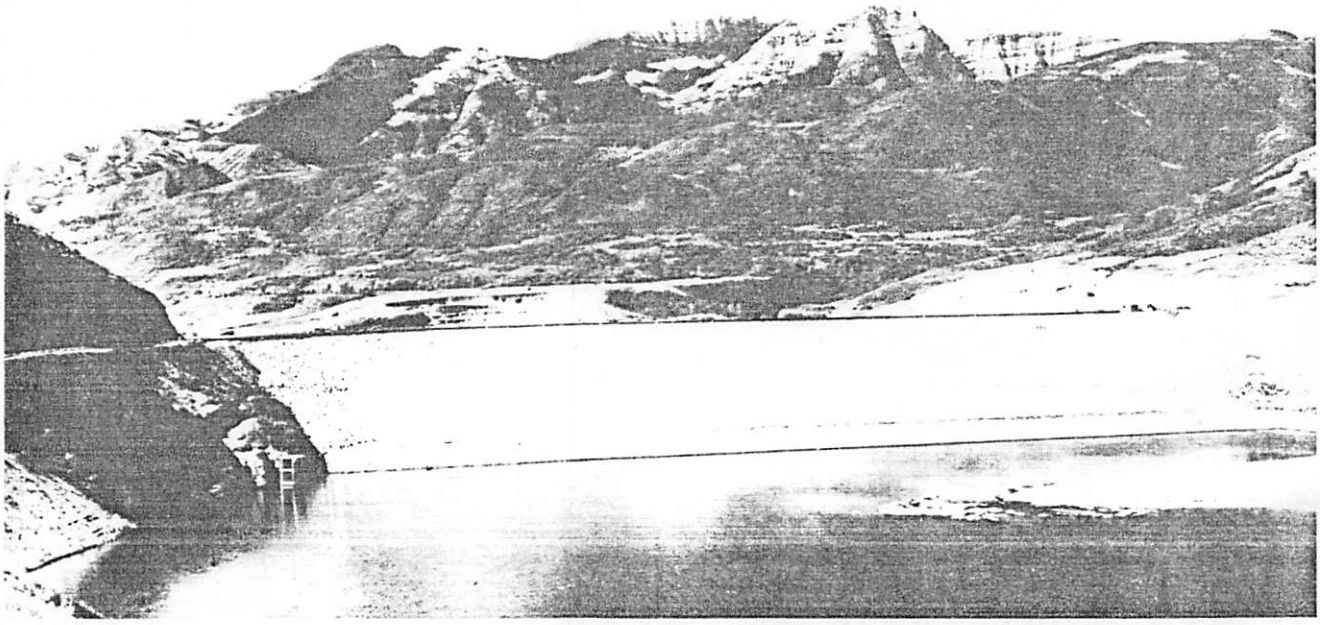
The key structure of the Provo River system now is the Deer Creek Dam located about twelve miles northeast of Provo Bench in Provo Canyon. It was completed by the Bureau of Reclamation in 1941. Weber River water and Duchesne River water, plus some of Provo River's high water, is stored in Deer Creek Reservoir. When Deer Creek Reservoir is full, its Weber and Duchesne sources are cut off. The stored water of this reservoir is used mostly for culinary and industrial use. On the bench, 2,254 acre-feet go to the Metropolitan Water District of Orem; 2,000 acre-feet go to the Provo Bench Canal and Irrigation Company; and 1,600 acre-feet go to the Provo Reservoir Water Users Company. Deer Creek stockholders may use more than they own if they can buy from another stockholder who has more than he needs for the season.

If it were not for the Deer Creek Reservoir Project, Orem would have stopped growing in 1940. Neither Geneva Steel Plant nor any of its related industries would have been built. When Reed Smoot was senator, building such a dam was considered necessary by government and community leaders. Plans were made in the 1930s during the depression. It was estimated that the reservoir could be built for about $7,000,000 repayable in forty years without interest.

The matter of persuading companies and cities to sign the government contracts for repayment of construction costs, operating procedures, and losses in case of default, might never been accomplished but for the work of Attorney Arthur V. Watkins. He and Provo City Engineer, Elmer A. Jacob, volunteered their services, without pay, and spent many months persuading individuals and groups that they had everything to gain and nothing to lose by incurring this government indebtedness.

As subscriptions for water were solicited, it became obvious that agricultural wealth was not sufficient to pay the government obligations off over a forty-year period. It was then that Arthur V. Watkins conceived the idea that cities and towns could subscribe for water through Metropolitan Water Boards. A number of towns and cities in Utah County were very hesitant to create these boards. They felt that they had sufficient water for the future; but, today they are sorry they did not participate more fully.

Provo City subscribed for 8,000 acre feet; American Fork, Pleasant Grove, and Lehi each subscribed for 500 acre feet; Orem could qualify only for 2,240 acre feet because of it's low assessed valuation. Provo Reservoir Water Users Company subscribed for 16,000 acre feet which was the largest agricultural subscription. Provo Bench Canal and Irrigation Company subscribed for 800 acre feet.



DEER CREEK RESERVOIR
Courtesy BYU Archives

When there were still more subscriptions available, Salt Lake City agreed to pay the additional amount. In later years, when every little company and city in the area was begging for more Deer Creek water, Salt Lake City was blamed for taking the surplus.

The cost of building the reservoir increased steadily because of delays and inflation. Even though the final cost was more than three times the original estimate—$24,000,000 or $240 an acre-foot, Deer Creek Reservoir is still the cheapest and surest water supply in the area.

The completion of the Deer Creek Reservoir fulfilled a prophecy of Brigham Young as recorded in the diary of Ben H. Bullock:

> Some day an earthen dam will be constructed in Provo Canyon across the Provo River making a large reservoir, and water will be take from this reservoir around the foothills of this valley into Salt Lake Valley and the people of Salt Lake City will get much of their supply of water from this source.

MUNICIPAL WELLS

Orem City now has six wells which pump water into two 3,000,000-gallon tanks on a hill at the base of Timpanogos. A higher tank stores 2,000,000 gallons of

MUNICIPAL WELL, 1946: Jim Blair and Willard Pierce. *Courtesy Mrs. Willard Pierce.*

pure water from canyon springs. All water flows into the city water system through 134 miles of pipe to 40,000 people. During the month of July 1976, Orem residents and industries used 465,540,000 gallons of water or 11,389 gallons per person. Orem City leaders plan to fill the water needs of future citizens with one-third of the supply coming from wells, one-third from springs, and one-third from storage.

No wells may now be dug without the permission of the State Engineer. This regulation is to protect current well owners whose supplies might dry up if too many taps are made on the same underground stream. For this reason, Orem City wells go below the water-bearing strata that supplies adjacent cities; the wells are between five hundred and one thousand feet deep. Today's wells are very different from those dug by Alf Skinner. They are located by a geologist instead of a water witch, and a drill does the digging and lays the pipe.

Orem City now buys all the irrigation water of good title that is for sale within its boundaries. It becomes part of the culinary supply as soon as it is purified. Until then, it is rented out by the city to pay for various costs incurred.

LITIGATION

In 1851, cities had been given control of irrigation water in their charters. From then on Provo City exercised full control over the Provo River from the mouth of the canyon to the lake. Provo City often questioned means of measurement and apportionment between interests. In 1882, Provo City sued one of its own citizens, Newel Knight, a superintendent of the Provo Bench Canal and Irrigation Company for taking and using water from the Provo River without the authority of the water master. Since the Provo Bench Canal and Irrigation Company Trustees had directed Mr. Knight to take the water, they authorized him to get legal help. The Provo Bench Canal and Irrigation Company won the case.

Before 1880, water was appurtenant to land and was the property of the Territory of Utah. The Territorial legislature of 1880 changed this by making water personal property that could be bought and sold. Irrigation districts were reorganized as water stock companies where water could be used for speculation or any other reason. The State could not intervene to protect public rights or to protest excessive grants. Judges knew very little about irrigation matters, so when cases were brought before them in court, they frequently granted more water than was available. As a result, streams were over-appropriated which eventually rendered some water rights worthless.

In 1884, a convention of all Provo River interests was called at Heber City to consider better management of water distribution. A tentative agreement was reached, but it proved unsatisfactory. In 1894, Provo City filed suits against various canal companies that were never brought to trial.

In 1901, legislative change was made in an effort to define rights. The State was divided into divisions, each headed by a superintendent who had been

appointed by the State Engineer. The law required records of all rights to be kept. It allowed existing rights to continue if they were being used beneficially. Now rights could be acquired by appropriation. Certain rules were applied to rights that could be apportioned. One rule was that rights were to be measured by a fractional part of the whole supply.

By 1902, Telluride Power Company had acquired power water rights and the Nunn brothers had built a plant on the Provo River about two miles up the canyon to create a market for power. They later built the Olmstead plant at the mouth of the canyon. The Provo Bench Canal and Irrigation Company trustees favored the plant and made agreements that protected their rights and secured certain benefits.

In the fall of 1913, the Provo Bench Canal and Irrigation Company hired a young civil engineer and stockholder, Frank Wentz, to conduct hydrographic studies of the land serviced by the company. Not long thereafter he was made commissioner over the Provo River system. Mr. Wentz remained Provo River Commissioner until his death in 1958.

Perhaps the most difficult time of Mr. Wentz's service was before the Deer Creek Reservoir supplemented and evened out yearly water supplies so that no crops were lost to drought. He was often confronted by desperate farmers who begged for a little more water to save a crop or an orchard. His reply always left the decision to the petitioner: "I'd like to turn the water to you, but first, tell me, which of your neighbors do you want me to take it from?"

The Provo Bench Canal still provides water to farmers. Other canal companies also serve the benchland. Canal and laterals are lined tightly so that water, work, and expense are saved. Water is also saved by better turnout devices. New metal and concrete gates and weirs allow accurate measurements, and a daily record can be maintained. The flow of a stream several hundred miles away can be known by dialing a certain telephone number and listening to a recording device installed at a measuring point. One hundred fourteen years have passed since the first irrigation canal was completed and irrigation is now a technical science.

Orem's leaders have always understood and planned for future water needs. Because of this, Orem City is in a most favorable position with ample water for future growth. In 1976. Orem City Engineer, Russell Brown, reports that Orem owns all of Heiselt Springs, has the use of Alta Springs, owns stock in the Provo Bench Canal and Irrigation Company and also the Provo Reservoir Water Users Company, and owns several culinary wells.

OLD WATER FLUME, PROVO CANYON
Courtesy Theresia Clayton Pyne

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HOMESTEADING

They visited in Pleasant Grove with relatives. I think that is how Father, Andrew Gustave, became interested in Provo Bench, as that was the great talk at that time. The land was mostly homesteading and plans were under way to bring water to that part of the Bench, but the canal had yet to be dug. Father learned of a man, George Pickup, who was willing to sell his homestead interests, so Father traded a cow and other valuables for the first forty acres of sagebrush land with a small shack on it. The folks moved to Pleasant Grove about the first of October, 1878, and lived at Little Andrew Larson's that winter, making preparations to move out to the little lumber shack in the sagebrush among the coyotes, jack rabbits, skunks and snakes. The roving Indians came to beg for biscuits. (Some combination to start out in with a family of five children.) Water had to be hauled or carried two or three miles for house use and animals while the canal was being dug. Father worked on the canal for water shares, and on the railroad for money to help care for the family. They pasted paper over the cracks between the boards of the walls to keep out some of the wind, dust and snakes until adobes could be had to make the place warmer for winter. Mother did her part well by caring for the family and helping clear some of the sagebrush off the land where meager crops were planted. The grasshoppers and rabbits did most of the harvesting for the first few years.

History of Andrew Gustave Johnson and
Charlotte Christina Albertina Anderson

WATER FOR TREES

There was no running water on the land at that time, so water was hauled in barrels from the river, and poured around the trees from buckets until they could dig a ditch from the mouth of Provo Canyon. This dream was realized by 1883 and a row of these saplings were planted all along the ditch bank through their place, some are still standing.

History of Thomas Jefferson Patten

AN ABANDONED HOMESTEAD

It seems that once more he was to be befriended by a person from the old country. A man by the name of Shaw from Scotland had established a bakery between first and second west center in Provo. He told Thomas of a quarter section of ground on Provo Bench that was about to be abandoned, since they did not yet have water on the land. This was not a surprising circumstance, many were abandoning their homesteads at that time. The owner of the land was named Rainey, and he was living in Salt Lake at the time.

History of Thomas and Mary Ann Benson Cordner

FARM SHACK

The spring of 1879, we moved to the shack on the farm. Mother filled the cracks between the rough boards with mud and newspaper to keep out the snakes and other creeping things. We spent much of our time cutting sagebrush to burn in the cook stove. It also served to clear the land.

History of Andrew Gustave Johnson and Charlotte Christina Albertina Anderson

A FARM POND

As soon as the ditches were finished, he built a farm pond which was filled up each time he had a watering turn. He was able to store enough water to supply the needs of the farm animals each week.

Excavating for the pond was done with a team of horses and a "slip" which was probably the forerunner of the modern bulldozer. When the pond was dug out to the desired depth, Elliot hauled adobe clay from his brothers placed down on about 950 West 500 North in what is now Geneva Heights. The adobe clay made a good tight seal in the inside of the pond which prevented the water from seeping down into the soil and being lost.

They had a small fishing boat on the pond as some trout had been planted. Malinda's ducks enjoyed unrestricted use of the pond surface.

History of Elliot Alfred Newell

PIONEER LIFE

His time at home was taken up doing chores about the house and yard and clearing sagebrush from the grounds to plant more crops. They piled the brush in the yard to use for fuel. They spent some time in planting poplar trees around the 40-acre farm and a cedar post was set in every rod, then two strands of barb wire were put around the field after the trees began to grow. They hauled barrels of water to put on them each week as there was not enough irrigation stream to go that far. In a few years there was more water so the ditches and furrows were made to take care of them and the trees were a welcome sight when the hot sun was shining and we needed a short rest while working in the field. In the winter the water would freeze in the ditch, it was chopped up and put in a tub or kettle on the stove to melt for cooking and washing; also water was hauled in barrels from Spring Ditch and Provo River.

History of Arthur Waldrum Merrott

HAULING WATER

When Charley and I were about 7 and 9 years old, we hauled water for house use. Charley would get on top of the mule's back and straighten the harness as I handed it up to him. We had two forty-gallon barrels on the wagon to be filled at a spring west of Pleasant Grove. We took buckets to scoop up the water and by the time we were finished we were almost icicles. Then as we started home we would put our mittens on the endgate rod. The mittens would freeze to the rod so we would put our hands in the mittens and run behind the wagon. When we reached home, mother would take off our wet clothes and put us to bed. The mules always knew the way home.

History of Andrew Gustave Johnson and Christina Albertina Charlotte Anderson

DRINKING WATER

We, meaning father or the boys, buried a five gallon wooden barrel in the ground. This had an open top with a wooden lid. This was covered with a heavy canvas. Every night this barrel was filled with water which was carried by bucketfuls from the irrigation ditch about two blocks away. It was left open at night so that it would get cold. We kept it covered by day and always had cool water. Many times we would get thirsty when we were far away. On those occasions, scores of times, I got down on my tummy and hands to a ditch containing warm, yes, almost hot water, and blew on the water. The wigglers, by the thousands, would scamper and I would duck for a drink.

At that time little gnats by the millions filled the air and they ate you at their pleasure.

History of Ray V. Wentz

NORTH UNION CANAL

Although they were not considered original pioneers because they came by railroad to Utah, this family really were pioneers in settling this valley and working to make the land productive. Cornelius Baxter was the first man to dig a well for drinking water in this vicinity and he was very elated when he struck water at a depth of 27 feet. He was among those men who made a ditch across the hills from the Provo River to irrigate their land, and later this was made the North Union Canal by he and other men who often worked late into the night. Sometimes their lunches would consist only of bread and onion sandwiches. While digging the canal with pick and shovel, they often encountered large boulders which had to be removed, and their only method of removing them was to build fires of sagebrush on top of the boulders and then when they became very hot they would throw cold water on them. This would cause the rocks to crack and break into smaller pieces so they could be removed with the help of wire, ropes, and horses.

History of Cornelius and Elizabeth Currie Kelley Baxter

WOMEN'S WORK

She did a lot of hard work on the farm, helping her husband clear the sagebrush and haul rocks to make the land fit for farming. She helped to take the sagebrush to Provo to the molasses mill on 12th North where it was used for fuel. The mill was owned by a Mr. Poulsen. They later raised sugar cane which she stripped and took to the David Stratton mill on the west part of the Bench. She also hauled hay and grain, and picked up potatoes and sugar beets.

History of Temperance Penrod Evans

WATER SHARES

R. T. Murdock came along with the declaration: "I have more water; do you want some?" Eliza Wentz subscribed for eight shares, giving a lien on her spot of ground. We had transferred four acres to her name so she could vote as a taxpayer. A few years later, when the Murdock ditches were complete, the water was turned in. Eliza was delighted with her eight shares and was proud to turn it on her lawn. With a thrill she watched, and when the turn was over she and Ray investigated and found that only one square rod was watered. Disappointed, yes, but full of hope. The water was turned on all the farms up the river for seventy miles. It sank down to the underground reservoirs and raised their level. This created springs which increased the water supply many times. Within ten years the water supply was excellent, but it had been a gradual thing. It didn't all happen in one day.

At one time half of the water users on Eliza's ditch were stuck. They could not get their syphon to work and take their water across a hollow. Brother Murdock moved half of them over to Provo Bench Canal and it has been good water ever since.

History of Ray Vernon Wentz

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"It Happened in Orem"